



Switching Transistor

Under contract with Lewis Research Center, Westinghouse Electric Corporation's Research and Development Center, Pittsburgh, Pennsylvania developed a new class of power switching transistors for improved electrical power distribution systems in aircraft and spacecraft; they are used, for example, in the

actuators that move flight control surfaces on the Space Shuttle. The D60T transistor, which represents a major advance in the field of power electronics, is being produced for the commercial market by the company's Semiconductor Division, Youngwood, Pennsylvania.

D60T transistors are used primarily as switching devices for controlling high power in electrical circuits. With expanded power ranges, low energy losses and exceptionally fast switching speeds, the D60T enables reduction in the number and size of circuit components and promotes more efficient use of energy. It opens the door to previously impractical transistor applications, says Westinghouse; in many uses, the new transistor will compete directly with the thyristor, long the workhorse of the electrical power industry. It combines thyristor advantages of high power handling and reliability with the transistor's faster switching speed, positive circuit control and convenience of manufacture.

Westinghouse is using the transistors in its own product line and supplying them to other electronic systems manufacturers for a wide range of applications, from a popcorn popper to a radio frequency generator for solar cell production. The accompanying photos illustrate two other application examples. At left is a battery charger for electric vehicles, produced by EHV Systems, Centerreach, New York. The tugboat shown below has a National Controls inverter which changes DC power to AC for operation of such equipment aboard the tug as refrigerators and air conditioners.

